



DAE  
IFW  
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PATENT  
Customer No. 22,852  
Attorney Docket No. 09242.0178

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	
	)	
John C. SMITH	)	Group Art Unit: 2839
	)	
Application No.: 10/023,713	)	Examiner: K. Nguyen
	)	
Filed: December 21, 2001	)	
	)	
For: REINFORCED TIGHT-	)	Confirmation No.: 6867
BUFFERED OPTICAL FIBER	)	
AND CABLES MADE WITH	)	
SAME	)	

**Mail Stop Petition**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**PETITION TO WITHDRAW HOLDING OF ABANDONMENT**  
**UNDER 37 CFR 1.181(a)**

The above-identified application became abandoned for an alleged failure to file a timely and proper response to the Office action mailed on April 5, 2004, which set a three month period for response. The abandonment date of this application was October 5, 2004 (i.e., the day after the expiration date of the period set for response plus any extensions of time obtained therefore). Applicant brings to the attention of the Examiner that a Response and Petition for One-Month Extension of Time was filed on July 23, 2004. Applicant received a stamped receipt postcard from the Office acknowledging receipt of the Response and Petition for Extension of Time. Copies of

the as-filed papers and receipt postcard are submitted with this Petition. Moreover, the Transaction History for this application in Public PAIR on the Office's Internet site reflects an entry for July 23, 2004, stating "Workflow incoming amendment IFW." A printout of the Transaction History is also submitted with this Petition.

Based on the information provided above, Applicant hereby petitions for withdrawal of holding of abandonment of the above-captioned application.

If there are any other fees due in connection with the filing of this response, including any fees required for an extension of time under 37 CFR § 1.181, such an extension is requested, and the Commissioner is authorized to charge any related fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: November 24, 2004.

By: 

R. Bruce Bower  
Reg. No. 37,099

Printer Friendly

10/023,713

Reinforced tight-buffered optical fiber and cables made with same

Transaction History

Date	Contents Description
11-17-2004	Mail Abandonment for Failure to Respond to Office Action
11-15-2004	Abandonment for Failure to Respond to Office Action
07-23-2004	Workflow incoming amendment IFW
04-05-2004	Mail Non-Final Rejection
04-05-2004	Non-Final Rejection
01-30-2004	Date Forwarded to Examiner
12-19-2003	Response after Non-Final Action
09-24-2003	Mail Non-Final Rejection
09-22-2003	Non-Final Rejection
10-03-2002	Information Disclosure Statement (IDS) Filed
08-25-2002	Receipt of all Acknowledgement Letters
07-21-2002	Case Docketed to Examiner in GAU
05-16-2002	Case Docketed to Examiner in GAU
03-21-2002	Information Disclosure Statement (IDS) Filed
12-21-2001	Miscellaneous Incoming Letter
05-03-2002	Application Dispatched from OIPE
05-02-2002	Application Is Now Complete
04-12-2002	Additional Application Filing Fees
04-12-2002	A statement by one or more inventors satisfying the requirement under 35 USC 115, Oath of the Applic
02-25-2002	Notice Mailed--Application Incomplete--Filing Date Assigned
01-30-2002	Referred by L&R for Third-Level Security Review. Agency Referral Letter Generated
01-18-2002	IFW Scan & PACR Auto Security Review
01-05-2002	IFW Scan & PACR Auto Security Review
12-21-2001	Initial Exam Team nn

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ADS - RBB-JAD

36

**PLEASE STAMP TO ACKNOWLEDGE RECEIPT OF THE FOLLOWING:**

In Re Application of: John C. SMITH

Application No.: 10/023,713

Group Art Unit: 2839

Filed: December 21, 2001

Examiner: K. Nguyen

For: REINFORCED TIGHT-BUFFERED OPTICAL FIBER AND CABLES MADE WITH  
SAME

- 
1. Transmittal letter (1 page)
  2. Reply to Office Action (10 pages)
  3. Check in the amount of \$110.00

Dated: July 23, 2004

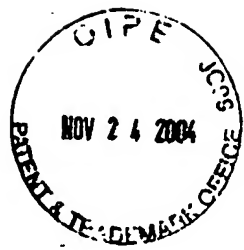
Docket No.: 9242.0178

JXD/OMHoward - Mail Drop Atlanta



(Due Date: 8/5/04)

DhTg  
7-23-04  
JAD



PATENT  
Customer No. 22,852  
Attorney Docket No. 9242.0178

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
John C. SMITH ) Group Art Unit: 2839  
Application No.: 10/023,713 ) Examiner: K. Nguyen  
Filed: December 21, 2001 )  
For: REINFORCED TIGHT-BUFFERED )  
OPTICAL FIBER AND CABLES )  
MADE WITH SAME )

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

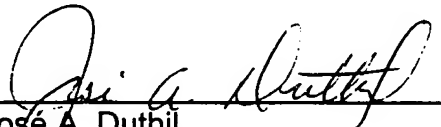
**TRANSMITTAL LETTER**

Enclosed is a reply to the Office Action of April 5, 2004. The items checked below are appropriate:

- ☒ Applicant hereby petitions for a one-month extension of time to respond to the above Office Action. The fee of \$110.00 for the Extension is enclosed.
- ☒ A check for \$110.00 to cover the above fee is enclosed.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Dated: July 23, 2004

By:   
José A. Duthil  
Reg. No. 52,844



PATENT  
Customer No. 22,852  
Attorney Docket No. 9242.0178

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
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John C. SMITH ) Group Art Unit: 2839  
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For: REINFORCED TIGHT-BUFFERED )  
OPTICAL FIBER AND CABLES )  
MADE WITH SAME )

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

**REPLY TO OFFICE ACTION**

In reply to the Office Action mailed April 5, 2004, the period for response having been extended to August 5, 2004 by a request for extension of one month and fee payment filed concurrently herewith, please reexamine and reconsider the Application in view of the following remarks. Prior to entry of this response, claims 1-22 were pending in this case.

A listing of claims is included in this paper. Remarks follow the listing of claims section of this paper.

**LISTING OF CLAIMS:**

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A tight-buffered optical fiber, comprising:  
an optical fiber;  
at least a first buffer layer of a polymer material enclosing said optical fiber; and  
a plurality of strength members embedded in said first buffer layer ~~and longitudinally~~, said plurality of strength members positioned longitudinally and in contact with said optical fiber and positioned to surround a circumference of ~~with respect to said~~ optical fiber.
2. (Original) The tight-buffered optical fiber of Claim 1, wherein said first buffer layer is constructed from a material that is converted from a liquid curable composition into a cured polymeric material during fiber manufacture.
3. (Original) The tight-buffered optical fiber of Claim 2, wherein said first buffer layer is a radiation curable material.
4. (Original) The tight-buffered optical fiber of Claim 2, wherein said first buffer layer is a thermally curable material.
5. (Original) The tight-buffered optical fiber of Claim 2, wherein said first buffer layer is an acrylate.

6. (Original) The tight-buffered optical fiber of Claim 1, further comprising:  
a second buffer layer of polymer material enclosing said first buffer layer;  
and  
a plurality of strength members embedded in said second buffer layer and  
longitudinally positioned with respect to said optical fiber.
7. (Original) The tight-buffered optical fiber of Claim 6, wherein said first and  
second buffer layers are constructed from a material that is converted from a liquid  
curable composition into a cured polymeric material during fiber manufacture.
8. (Original) The tight-buffered optical fiber of Claim 7, wherein said second  
buffer layer is a radiation curable material.
9. (Original) The tight-buffered optical fiber of Claim 7, wherein said second  
buffer layer is a thermally curable material.
10. (Original) The tight-buffered optical fiber of Claim 7, wherein said second  
buffer layer is an acrylate.
11. (Original) The tight-buffered optical fiber of Claim 1, wherein the strength  
members are yarns selected from the group of aramid, fiberglass, and liquid crystal  
polymer yarns.
12. (Original) The tight-buffered optical fiber of Claim 6, wherein the strength  
members are yarns selected from the group of aramid, fiberglass, and liquid crystal  
polymer yarns.



13. (Currently Amended) A method of making a tight-buffered optical fiber, comprising:
- passing an optical fiber through an applicator;
  - placing a plurality of strengthening yarns ~~longitudinally around said optical fiber~~ in said applicator, said plurality of strength yarns positioned longitudinally and in contact with said optical fiber and positioned to surround a circumference of said optical fiber;
  - applying a first buffer layer in liquid form over said optical fiber; and
  - curing said first buffer layer.
14. (Original) The method of Claim 13, wherein said step of applying a first layer includes the substep of:
- embedding said plurality of strengthening yarns in said first buffer layer.
15. (Original) The method of Claim 13, further comprising:
- locating a second plurality of strengthening yarns longitudinally around said cured first buffer layer;
  - applying a second buffer layer in liquid form over said first buffer layer;
  - and
  - curing said second buffer layer.
16. (Original) The method of Claim 15, wherein applying a second buffer layer includes:

embedding said second plurality of strengthening yarns in said second buffer layer.

17. (Original) The method of Claim 13, wherein said curing comprises irradiating said first buffer layer with thermal radiation.

18. (Original) The method of Claim 13, wherein said curing comprises irradiating said first buffer layer with ultraviolet radiation.

19. (Original) The method of Claim 13, further comprising extruding a protective layer over said first buffer layer.

20. (Original) The method of Claim 15, further comprising extruding a protective layer over said second buffer layer.

21. (Currently Amended) An optical fiber cable, comprising:  
at least one tight-buffered optical fiber including an optical fiber, at least a first buffer layer of a polymer material enclosing said optical fiber, a plurality of strength members embedded in said first buffer layer, said plurality of strength members and longitudinally positioned in contact with said optical fiber, and positioned to surround a circumference of around said optical fiber; and  
an overall jacket enclosing said at least one tight-buffered optical fiber.

22. (Original) The optical fiber of Claim 21, further comprising means for blocking water propagation between said overall jacket and said at least one tight-buffered optical fiber.

**REMARKS**

Claims 1-22 are currently pending, of which claims 1, 13, and 21 are independent. The Examiner stated that Applicant's arguments in the previous Office Action response, with respect to claims 1-22, were considered but are moot in view of the new ground(s) of rejection. In the Office Action, the Examiner rejected claims 1-22 under 35 U.S.C. § 103(a) as being unpatentable over the Admitted Prior Art (APA) in view of EP '761 and DE '220.

Specifically, the Examiner acknowledged that "[t]he APA tight-buffered optical fiber discussed in the background of the present invention and shown in Figure 2 of the drawing lacks a plurality of strength members embedded in the first buffer layer 106[. Rather,] the strength members are shown as surrounding the first buffer layer." The Examiner, however, asserted that EP '761 discloses optical fiber 1 provided with a buffer layer 14, which is embedded with strength members 13 (See Figure 5). The Examiner also asserted that "DE '220 discloses buffer layer 9 provided with a buffer layer 9 which is embedded with strength members 11."

Based on the foregoing assertions, the Examiner stated that it would have been obvious for one of ordinary skill in the art to also arrange or provide strength members embedded in the first buffer layer 106 of the APA in view the teachings of EP '176 and DE '220. The Examiner also concluded that this feature would have been a matter of obvious design and location of parts for providing a more compact fiber and better retention of the strength members to the fiber, since the strength members are embedded in the buffer layer. Applicant respectfully disagrees with the Examiner's assessment of these references and traverses these rejections.

Applicant respectfully submits that claims 1 and 21, as amended, provide a recitation including, for example, a tight-buffered optical fiber including “a plurality of strength members embedded in said first buffer layer, said plurality of strength members positioned longitudinally and in contact with said optical fiber and positioned to surround a circumference of said optical fiber.” Applicant respectfully submits that EP '761 and DE '220 do not teach or suggest such features.

In contrast to the present invention, EP '761 discloses that “optical fibers 15 are aligned such that the areas of the covering layers 14 in which no tension members 18 is provided are placed adjacently, i.e., the long sides of the covering layers 14 are brought into contact with each other. According to such arrangement, the tension members 18 in the optical fiber cord 15 are placed only on [] both upper and lower surface sides of the ribbon cord 17 in Fig. 5.” Therefore, EP '761 does not teach or suggest that the tension members are positioned so that they are in contact with the optical fibers (See Fig. 5) or that the tension members in the cover layers 14 are positioned to surround the circumference of the optical fibers.

DE '220 “relates to an optical element with a plurality of optical fibers and/or an optical cable with at least one optical element having a plurality of optical fibers and a sheath.” (DE '220 Translation, page 1, lines 1-3) The figure of DE '220 illustrates an optical cable, having an optical element 3 surrounded by a metal sheathing 5. The optical element 3 itself has a plurality of optical fibers 7. (See DE '220 Translation, page 3, lines 6-10) “[T]o protect the optical fibers 7, for example, two elements 11 that have tensile strength and resistance to crushing and are made of a plastic with high tensile strength such as Kevlar or Aramid are embedded in the protective body 9. The elastic

material of the strand-like protective body 9 in the exemplary embodiment presented here fills up the hollow spaces formed by the corrugations beneath the corrugated metal sheathing 5 and ensures a good longitudinal water tightness of the optical cable 1 without having to provide any additional filling compounds and/or windings." (DE '220 Translation, page 3, lines 23-30)

In similar fashion to EP '761, DE '220 does not teach or suggest that elements 11 are positioned in contact with the optical fibers (See Figure) or that elements 11 are positioned in the protective body 9 to surround the circumference of the optical fibers. Furthermore, in contrast to the invention of claims 1 and 21, DE' 220 is directed to creating an optical cable with an optical element 3 having a plurality of optical fibers. The protective layer 9 (referred to as the buffer layer by the Examiner) is used to fill up the space formed by the corrugations beneath the corrugated metal sheathing 5. The protective layer 9 is not "a first buffer layer of a polymer material enclosing said optical fiber."

Accordingly, the combination of EP '761, DE' 220, and the APA would produce an optical cable including an optical element with tight buffered fibers. The tight buffered fibers would have tension members in the upper and lower sides of the covering layer of the optical fiber and tension members surrounding the covering layer. The spacing between the tight buffered fibers and the metal sheathing would be filled with a protective layer, such as protective layer 9 of DE '220. This combination would not produce a tight buffered optical fiber comprising: an optical fiber; at least a first buffer layer of a polymer material enclosing said optical fiber; a plurality of strength members embedded in said first buffer layer, said plurality of strength members

positioned longitudinally and in contact with said optical fiber and positioned to surround a circumference of said optical fiber, as recited in claims 1 and 21. Consequently, independent claims 1 and 21 are patentable over the cited references.

As part of the rejections discussed above, the Examiner asserted that it would have been obvious for one of ordinary skill in the art to also arrange or provide strength members embedded in the first buffer layer 106 of the APA in view of the teachings of EP '761 and DE '220. The Examiner further asserted that "[t]his feature would also seem to be a matter of obvious design and location of parts for providing a more compact fiber [with] better retention of the strength members to the fiber since they are embedded in the buffer layer itself." Applicant respectfully disagrees.

The MPEP states that "[t]he prior art must provide a motivation or reason for the worker in the art, without the benefit of [applicant's] specification, to make the necessary change in the reference device." (MPEP § 2144.04) The Examiner has not provided such a motivation in any of the cited references. Therefore, Applicant respectfully submits that such a basis for a rejection is improper.

With respect to claims 2-12 and 22, Applicant respectfully submits that these claims are allowable, at least for the same reasons as claims 1 and 21 and by virtue of their dependency on claims 1 and 21.

In view of the foregoing amendments and arguments, Applicant respectfully requests the withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 1-12 and 21-22.

With respect to claim 13, Applicant respectfully submits that claim 13 is allowable, at least, because it recites a process for making the tight-buffered optical fiber of claim 1. The process of claim 13 creates a tight-buffered optical fiber including

"a plurality of strength members embedded in said first buffer layer, said plurality of strength members positioned longitudinally and in contact with said optical fiber and positioned to surround a circumference of said optical fiber." It follows from the construction of the tight-buffered optical fibers disclosed by the APA, in view of the teachings of EP '761 and DE '220, that the process of claim 13 would not have been obvious from the process for creating such tight-buffered optical fibers.

With respect to claims 14-20, Applicant respectfully submits that these claims are allowable, at least for the same reasons as claim 13 and by virtue of their dependency on claim 13.

In view of the foregoing amendments and arguments, Applicant respectfully requests the withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 13-20.

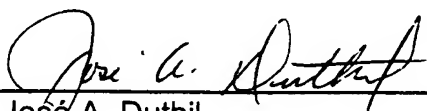
In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,  
GARRETT & DUNNER, L.L.P.

Dated: July 23, 2004

By:   
José A. Duthil  
Reg. No. 52,844